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(11) **EP 2 284 184 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
18.05.2011 Bulletin 2011/20

(43) Date of publication A2:
16.02.2011 Bulletin 2011/07

(21) Application number: **10180010.0**

(22) Date of filing: **05.11.2004**

(51) Int Cl.:
G01N 15/00 *(2006.01)*

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LU MC NL PL PT RO SE SI SK TR

(30) Priority: **09.01.2004 US 535988 P**
08.04.2004 US 561059 P
18.05.2004 US 572403 P

(62) Document number(s) of the earlier application(s) in accordance with Art. 76 EPC:
10151681.3 / 2 216 640
04810533.2 / 1 706 721

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(54) **Bacillus YvmA inactivation**

(57) The present invention relates to an isolated polynucleotide of the complete chromosome of *Bacillus licheniformis.* The present invention also relates to isolated genes of the chromosome of *Bacillus licheniformis* which encode biologically active substances and to nucleic acid constructs, vectors, and host cells comprising the genes as well as methods for producing biologically active substances encoded by the genes and to methods of using the isolated genes of the complete chromosome of *Bacillus licheniformis.*

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EUROPEAN SEARCH REPORT

Application Number
EP 10 18 0010

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	WO 03/054163 A2 (NOVOZYMES BIOTECH INC [US] NOVOZYMES BIOPOLYMER AS [DK]) 3 July 2003 (2003-07-03) * page 51 - page 54 *	1-15	INV. G01N15/00
X	WO 02/29113 A (NOVOZYMES BIOTECH INC [US]; NOVOZYMES AS [DK]) 11 April 2002 (2002-04-11) * abstract; claim 4 * * page 3 - page 5 *	1-15	
A	WO 03/087149 A2 (NOVOZYMES AS [DK]; ANDERSEN JENS TOENNE [DK]; JOERGENSEN STEEN TROELS) 23 October 2003 (2003-10-23) * abstract *	1-15	
A	SINCHAIKUL S ET AL: "Bioinformatics, functional genomics, and proteomics study of Bacillus sp", JOURNAL OF CHROMATOGRAPHY B: BIOMEDICAL SCIENCES & APPLICATIONS, ELSEVIER, AMSTERDAM, NL, vol. 771, no. 1-2, 5 May 2002 (2002-05-05) , pages 261-287, XP004350541, ISSN: 1570-0232, DOI: DOI:10.1016/S1570-0232(02)00054-5 * the whole document *	1-15	TECHNICAL FIELDS SEARCHED (IPC) C12Q

-/--

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	4 April 2011	Costa Roldán, Nuria

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
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EPO FORM 1503 03.82 (P04C01)

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Application Number
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DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	LAPIDUS ALLA ET AL: "Co-linear scaffold of the Bacillus licheniformis and Bacillus subtilis genomes and its use to compare their competence genes", FEMS MICROBIOLOGY LETTERS, BLACKWELL PUBLISHING, AMSTERDAM, NL, vol. 209, no. 1, 19 March 2002 (2002-03-19), pages 23-30, XP002339776, ISSN: 0378-1097, DOI: DOI:10.1111/J.1574-6968.2002.TB11104.X * the whole document *	1-15	
T	VEITH B ET AL: "THE COMPLETE GENOME SEQUENCE OF BACILLUS LICHENIFORMIS DSM13, AN ORGANISM WITH GREAT INDUSTRIAL POTENTIAL", JOURNAL OF MOLECULAR MICROBIOLOGY AND BIOTECHNOLOGY, HORIZON SCIENTIFIC PRESS, WYMONDHAM, GB, vol. 7, no. 4, 1 September 2004 (2004-09-01), pages 204-211, XP009047713, ISSN: 1464-1801 * the whole document *	1-15	TECHNICAL FIELDS SEARCHED (IPC)
T	REY MICHAEL W ET AL: "Complete genome sequence of the industrial bacterium Bacillus licheniformis and comparisons with closely related Bacillus species", GENOME BIOLOGY, BIOMED CENTRAL LTD., LONDON, GB, [Online] vol. 5, no. 10, 13 September 2004 (2004-09-13), pages R77-1, XP021012839, ISSN: 1465-6906 Retrieved from the Internet: URL:2004-05-10> * the whole document *	1-15	

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
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& : member of the same patent family, corresponding document

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04-04-2011

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 03054163 A2	03-07-2003	AU 2002366711 A1	09-07-2003
		BR 0215220 A	09-01-2007
		CA 2471148 A1	03-07-2003
		CN 1636052 A	06-07-2005
		CZ 20040765 A3	15-12-2004
		EP 1572895 A2	14-09-2005
		JP 2005525091 T	25-08-2005
		KR 20080018965 A	28-02-2008
		RU 2346049 C2	10-02-2009
		US 2003175902 A1	18-09-2003
		US 2011014662 A1	20-01-2011
WO 0229113 A	11-04-2002	AU 9671801 A	15-04-2002
		EP 1355931 A2	29-10-2003
		EP 2072526 A2	24-06-2009
		US 2002146721 A1	10-10-2002
WO 03087149 A2	23-10-2003	AU 2003214036 A1	27-10-2003
		CN 1659282 A	24-08-2005
		EP 1497431 A2	19-01-2005
		EP 1696035 A2	30-08-2006
		EP 2213745 A1	04-08-2010
		US 2005176097 A1	11-08-2005

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